

U.S. Serial No. 10/642,280
Amendment
Response to OA dated March 16, 2004

Atty. Docket No.: 742158-8

REMARKS

Applicants' attorney gratefully acknowledges the interview granted by Examiner Chevalier on July 13, 2005.

At that interview, Applicants' attorney proposed amending claim 1 to additionally recite that the elastic plastic foam sheet has a fine foam structure that (1) includes fine foam cells formed at a polishing face thereof in part by separating off the fine particles, and that (2) the fine foam cells reserve a polishing liquid containing abrasive particles, and that (3) the elastic plastic foam sheet has large foam cells that have diameters larger than those of the fine foam cells and that also reserve polishing liquid containing abrasive particles, and that (4) communication holes are formed between the large foam cells and the fine foam cells.

At the close of the interview, the Examiner agreed that none of the prior art of record appeared to disclose a polishing sheet as defined in proposed amended claim 1.

In this regard, the Examiner should note that the Konishi '361 patent discloses only a polishing cloth having a foaming resin layer which may be formed from foam urethane "equal to an average diameter of, for example, approximately 200 - 2,000 nm, and preferably, approximately 200-500 nm." See column 4, lines 30-32. This statement, when read in conjunction with Figures 3 and 5, indicates that the Konishi '361 foam layer includes foam cells that are all substantially the same size. Hence, there is no "large" versus "fine" foam cells. Secondly, there is no disclosure or suggestion in the Konishi '361 patent that the foam cells "reserve polishing liquid containing abrasive particles ..." To the contrary, this reference teaches applying mechanical polishing particles 31 directly to the polishing surface 34 which are captured within small recess portions or concaves 35 of the resin layer 32 (see column 4, lines 55-59). Finally, there is no disclosure or suggestion whatever of the specifically recited "communication holes ... formed between the large foam cells and the fine foam cells." For all these reasons, amended claim 1 is clearly patentable over the Konishi '361 patent.

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Amended claim 1 is further patentable over the Zimmer '859 patent. This reference discloses only the provision of a single open cell foam having an initial porosity of 80% (see column 3, line 40 and column 4, lines 31 and 32). There is no disclosure or suggestion of a foam containing fine foam cells and large foam cells having "diameter substantially larger on average." Nor is there any disclosure or suggestion that the open foam cells "reserve a polishing liquid containing abrasive particles ..." To the contrary, this reference teaches that the foam material is dried in order to eliminate all liquid prior to use (see column 4, lines 45-48). Note also how the "dried and impregnated foam" is then combined with a standard waterproof coated abrasive cloth as a final stage in manufacturing (see column 4, lines 73-75). For all these reasons, amended claim 1 is clearly patentable over the Zimmer '859 patent.

Nor is amended claim 1 rendered "obvious" in view of any tenable combination of the Konishi '361 and Zimmer '859 patents. The Konishi '361 patent, by implication, teaches the use of a closed cell foam having a density that preferably ranges from "15-30%" (see column 5, line 13). By contrast, the Zimmer '859 patent discloses the use of an open celled foam of, for example, polyurethane having a porosity of "from 55-85%" (see column 2, line 40). The porosity may be as high as 80% as previously pointed out in column 3, line 40. Hence, these references teach the use of fundamentally different types of foams. Neither of these references discloses an elastic, plastic foam sheet having a fine foam structure including fine foam cells, in combination with foam cells that have "diameter substantially larger on average" than those of the fine foam cells. Finally, neither reference discloses or suggests such a foam polishing sheet wherein both the fine foam cells and the large foam cells "reserve a polishing liquid containing abrasive particles, ..." For all these reasons, amended claim 1 is clearly patentable over any tenable combination of the Konishi '361 and Zimmer '859 patents.

Claims 2, 3, 4, 5, 6 and 7 are each patentable at least by reason of their ultimate dependency upon amended claim 1.

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Independent claim 8 includes all of the aforementioned limitations discussed with respect to amended claim 1 and is therefore patentable at least by reasons of these limitations.

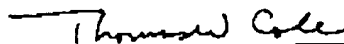
The balance of the claims 9, 10, 11, 12, 13, 14, 15, 16, 17 and 18 are each patentable at least by reason of their ultimate dependency upon amended claim 8.

Finally, new claims 21 and 22 are patentable not only for their dependency on claims 1 and 8, but for their recitation that the average diameter of the large foam cells is "multiples of" the average diameter of the fine foam cells, a limitation which is supported not only by Figures 1 and 2, but by the microphotographs of Figures 9-11.

Now that all the claims are believed to be patentable, the prompt issuance of a Notice of Allowance and Issue Fee Due is hereby earnestly solicited.

The Commissioner is authorized to charge any overage or shortage of fees connected with filing of this Amendment to Deposit Account No. 19-2380.

Respectfully submitted,


Thomas W. Cole
Registration No. 28,290

NIXON PEABODY LLP
Customer No. 22204
401 9th Street, N.W.
Suite 900
Washington, DC 20004-2128
(202) 585-8000
(202) 585-8080 fax

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